1 **ABSTRACT**

2 A real time data compression method examines whether a present

3 read-in data point is in a predicted tolerable error range. If yes, the previous data

4 point is deemed as redundant and is ignored and after which a new data point is

5 read in for comparing again. When a predetermined amount of data points is

6 continuously ignored, it means the data is steady and only the final data point of

7 these ignored ones is recorded. Otherwise, when data is varied greatly during a

8 period, only the total amount of these varying data points and their value are

9 recorded so the memory capacity for storing the compressed data is saved.

10 Furthermore, the compressed data is stored in a form of a data structure in which

11 the compressed data are expressed by multiple blocks. The block form allows

12 increase of the efficiency of the searching process of the compressed data.